

**HIERARCHICAL FAILURE MANAGEMENT  
FOR PROCESS CONTROL SYSTEMS**

**ABSTRACT OF THE DISCLOSURE**

5        A hierarchical failure management technique uses an integrated equipment hierarchy to automatically pass failure information from control modules to unit modules. Each control module collects failure information and generates a composite failure code by mathematically combining the failure information collected by that module. Modules which are currently needed by a phase of the

10      unit module to carry out a process automatically send respective failure codes to the unit module. The unit module selects the worst failure code from a list of failure codes within the unit module and compares the selected worst failure code to a predetermined threshold value to determine whether the process should continue.

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